

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/JP03/08225A. CLASSIFICATION OF SUBJECT MATTER  
Int.Cl' H03G3/20, H03F3/45

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl' H03G3/20, H03F3/45

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2003  
Kokai Jitsuyo Shinan Koho 1971-2003 Jitsuyo Shinan Toroku Koho 1996-2003

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 10-270961 A (Alps Electric Co., Ltd.), 09 October, 1998 (09.10.98), Par. No. [0016]; Fig. 1 (Family: none)	1, 3
Y	JP 2001-230639 A (Hitachi, Ltd.), 24 August, 2001 (24.08.01), Full text; all drawings & US 2001/0015674 A1	2, 4-6
Y	JP 6-111037 A (NEC Corp.), 22 April, 1994 (22.04.94), Full text; all drawings (Family: none)	2, 5, 6

 Further documents are listed in the continuation of Box C.  See patent family annex.

“T”	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
“A”	document defining the general state of the art which is not considered to be of particular relevance
“E”	earlier document but published on or after the international filing date
“L”	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
“O”	document referring to an oral disclosure, use, exhibition or other means
“P”	document published prior to the international filing date but later than the priority date claimed

Date of the actual completion of the international search 29 September, 2003 (29.09.03)	Date of mailing of the international search report 14 October, 2003 (14.10.03)
Name and mailing address of the ISA/ Japanese Patent Office	Authorized officer

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 02/51005 A1 (Niigata Seimitsu Co., Ltd.), 27 June, 2002 (27.06.02), Full text; all drawings (Family: none)	4